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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/507,425

10/13/2005

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YOM-0111

6242

23413 7590 04/15/2008  
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EXAMINER

SESE, JASON A

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/507,425	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Jason A. Sese	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/19/2007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

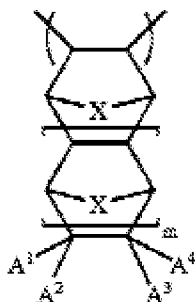
### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

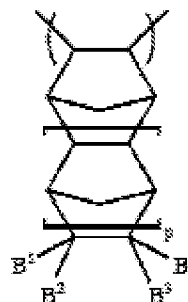
2. **Claims 1-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 2003/0119961) in view of Hashimoto et al. (US 2002/0149725).**

**Regarding claim 1**, Oshima et al. teaches a copolymer produced by an addition polymerization of the following formula monomers (1) and (4), wherein formula (4) comprises up to 99.5% of the copolymer, and contains essentially the same substituents as claimed by the Applicant [0036-0050].



**Formula (1)**

A<sup>1</sup> to A<sup>4</sup> are independently hydrogen, halogen, alkyl, alkenyl, etc. At least one of A<sup>1</sup> to A<sup>4</sup> is a silyl group.



**Formula (4)**

B<sup>1</sup> to B<sup>4</sup> are independently hydrogen, halogen, alkyl, alkenyl, or polar group such as -C(O)OR<sup>4</sup> [0040]

This polymer is desirable for use as a surface protective film for a polarizing plate [0295]. However, Oshima et al. are silent to the retardation in the thickness direction of the polymer film.

Hashimoto et al. teach an optical compensation film to be laminated on a side of a polarizing film, which also serves as a protective film [0718]. This optical compensation film prevents undesirable coloring and improves the viewing angle [0004]. Hashimoto et al. disclose that this optical compensation film may comprise a norbornene resin [0073], having a retardation in the thickness direction,  $R_{th}$ , between 10 to 1000nm for a uniaxially or biaxially stretched film [0067-0068], when the thickness is between 10 to 500  $\mu\text{m}$  [0115].

Based on the disclosure of Hashimoto et al., it is known in the art to laminate a cyclic-olefin-based compensation film on a polarizing film, to protect the polarizer and increase the viewing angle of the polarizing plate simultaneously. In order to produce this polarizing plate with optimum compensation properties, it would have been obvious to one of ordinary skill in the art to impart the retardation values taught by Hashimoto et al., through known stretching techniques, to the cyclic olefin film of Oshima et al.

**Regarding claim 2**, Hashimoto et al. disclose that the optical compensation film may be optically negative [0067]. It would have been obvious to one of ordinary skill in the art would have manufactured the film into a negative C-plate type, depending on the birefringence of the liquid crystal cell.

**Regarding claims 3-4**, Oshima et al. explain that surface protective films can be provided on one or each side of a film. [0297].

**Regarding claim 7**, see treatment of claim 1 above. Oshima et al disclose several non-hydrocarbonaceous polar groups that overlap those claimed by the applicant.

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**Regarding claims 8-9**, see treatment of claim 1 above. Oshima et al. provide several examples of non-polar and polar functional groups.

**Regarding claim 10**, Oshima et al. disclose a cyclic addition copolymer comprising different monomer groups, wherein the functional groups of each monomer may be chosen individually [0036-0040]. It would have been obvious to one of ordinary skill in the art choose identical or varying functional polar groups for each monomer.

**Regarding claim 11**, see treatment for claim 10 above. It would have been obvious to one of ordinary skill in the art to choose both non-polar and polar functional groups to produce a copolymer.

**Regarding claim 12**, the applicant claims the polarizing plate according to claim 1, wherein the transparent film comprises a blend of one or more kinds of cyclic olefin-based addition polymers.

Considering that Oshima et al. disclose a wide variety of monomers with different functional groups, as shown in the treatment of claims 10-11, it would have been obvious to include more than one kind of cyclic olefin-based polymer to adjust desired properties.

**Regarding claim 13**, Oshima et al. disclose that the polymerization catalyst comprises Group 10 transition metals Ni and Pd [0056].

**Regarding claim 14**, Oshima et al. disclose a multicomponent catalyst to produce addition polymerization, in which describe components that correspond to those claimed by the applicant.

i) palladium bis(acetylacetonate) [0198-0199]

ii) Ni[PhC(O)CHPPh<sub>2</sub>] (Ph) (PPh<sub>3</sub>) [0202]

iii) N,N-dimethylanilium tetrakis(pentafluorophenyl) borate [0206]

**Regarding claim 15**, see above treatment of Claim 14.

**Regarding claims 16, 24 and 26**, Oshima et al. teach a method for producing a polarizing plate by laminating a solution-cast protective film on a polarizing film [0400 - 0403]. Because the functionally identically norbornene-based addition polymers are cast in the same way as the Applicant specifies, the film would inherently have a negative refractive index in the thickness direction. Additionally, the Examiner notes that claim 16 is a product-by-process claim, and could be anticipated by an identical product produced by an alternative method.

**Regarding claim 17 and 25**, Oshima et al. teach that the surface protective film is coated with an adhesive before lamination to the polarizing film [0403].

**Regarding claim 18**, see treatment of claim 1 above. The Examiner believes that a phase difference ratio  $R_{450}/R_{550}$  between 1 to 1.05 would be reasonably expected, because cycloolefin polymers typically have a small value of  $Re(450)/Re(550)$ , as shown by Otsoshi et al. (US 2004/0041968).

**Regarding claim 19**, Oshima et al. disclose light transmittances in Table 1, of greater than 90%. The Examiner believes it reasonable to expect that the transmittance would be at least 90% over the whole visible light spectrum.

**Regarding claim 21**, see treatment of claim 1 above.

**Regarding claim 23**, see treatment of claim 2 above.

**Regarding claim 27**, Oshima et al. teach that the film of invention is intended for use in display devices, such as liquid crystal displays [0308].

**Regarding claim 28**, as shown in the above treatment of claim 27, Oshima et al. disclose a liquid crystal display comprising the polarizing plate of claim 1, but the particular type of liquid crystal display is not specified. Vertically aligned (VA) and twisted nematic (TN) liquid crystal type-displays exhibit a larger refractive index in the thickness (z) direction than

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the in-plane (x,y) direction in the ON or OFF mode. These types of displays are very common in the art, hence it would have been obvious to one of ordinary skill that the liquid crystal cell satisfy the requirements set forth by the Applicant.

***Response to Arguments***

3. Applicant's arguments with respect to the rejection of claims 1-4, 16-17 and 27 under 35 U.S.C. 102(b) over Ishii et al. (US 6,726,995) have been considered but are moot in view of the new ground(s) of rejection. Examiner's previous rejections have been withdrawn.

4. Applicant's arguments with respect to the rejection of claims 1, 3-4, 6-9 and 13-15 under 35 U.S.C. 102(b) over Oshima et al. (US 2003/0119961) have been considered but are moot in view of the new ground(s) of rejection. Examiner's previous rejections have been withdrawn.

However, the Examiner has a couple comments regarding the Applicant's argument that in the disclosure of Oshima et al., a retardation film is prepared that has a retardation value of 136 $\mu$ m, and notes that this is significantly larger than the claimed value.

This value is abnormally large for a retardation value, so the Examiner believes that this is a typographical error. Additionally, retardation values are more commonly known to imply in-plane retardation, which is not the retardation in the thickness direction, as claimed by the Applicant.

5. Applicant's arguments with respect to the rejection of claims 24-26 and 28 under 35 U.S.C. 103(a) over Ishii et al. (US 6,726,995) have been considered but are moot in view of the new ground(s) of rejection. Examiner's previous rejections have been withdrawn.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason A. Sese whose telephone number is 571-270-3473. The examiner can normally be reached on Mon-Thurs, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason A. Sese  
Examiner  
Art Unit 1794

/J. A. S./

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Supervisory Patent Examiner, Art Unit 1794